National Transportation Safety Board

FACTUAL REPORT AVIATION

	NTSB ID: LAX99LA063	Aircraft Registration Number: N288M
	Occurrence Date: 12/31/1998	Most Critical Injury: Serious
	Occurrence Type: Accident	Investigated By: NTSB

Location/Time

Nearest City/Place	State	Zip Code	Local Time	Time Zone
ESPARTO	CA	95627	1151	PST

Airport Proximity: On Airport/Airstrip

Distance From Landing Facility:

Aircraft Information Summary

Aircraft Manufacturer	Model/Series	Type of Aircraft
Richard Young	HARMON ROCKET II /HARMON ROC	Airplane

Revenue Sightseeing Flight: No

Air Medical Transport Flight: No

Narrative

Brief narrative statement of facts, conditions and circumstances pertinent to the accident/incident:

On December 31, 1998, at 1151 hours Pacific standard time, an experimental Young Harmon Rocket II, N288M, was destroyed following an in-flight fire and hard landing at a private airstrip near Esparto, California. The commercial pilot/owner was operating the airplane under the provisions of 14 CFR Part 91. He and one passenger departed approximately 10 minutes before the mishap. The pilot was in serious condition after suffering burns over 1/3 of his body and succumbed to his injuries over a month after the accident; the passenger sustained minor injuries. Visual meteorological conditions prevailed for the local personal flight and no flight plan had been filed.

The pilot completed one flight and was taking another passenger up for a short flight around the area. On the downwind leg witnesses reported everything looked and sounded normal, and then they heard several pops, which they attributed to the engine being throttled back. One witness asked the other if the airplane was on fire. The flames he thought he observed went away. They dismissed his observation as sun glare and turned away. When they looked at the airplane again on base leg, 2 to 3 feet of bright yellow/orange flame and a trace of black smoke emanated from the cowling. On touchdown the airplane bounced, hit again, then skewed 20 degrees to the left. The left main landing gear collapsed outboard and the right main collapsed underneath the airplane. They gathered fire extinguishers and did not see the airplane come to a stop.

The passenger stated he saw light gray smoke in the cockpit and notified the pilot. The pilot secured the master switch and turned onto the base leg. At this point the passenger did not observe flames or feel any heat. As the airplane turned wings level onto final, thick black smoke that smelled like burning fiberglass or plastic filled the cockpit. After the airplane came to rest, he observed flames around the pilot and felt high heat. He yelled to the pilot to open the canopy, but the pilot responded he could not get it to open. Momentarily, the canopy opened halfway.

As the rescuers arrived, flames were still coming from under the cowling. The front cockpit was so filled with smoke that they could not see if the pilot was still in the airplane. The rescuers helped the rear passenger out, and then noticed the pilot on the side of the runway.

A Safety Board investigator and a representative from the engine manufacturer, Textron Lycoming, inspected the wreckage in the owner's hangar on January 13, 1999. The engine was a Textron Lycoming IO-540-C4B5, serial number RL-6849-48.

The engine exhibited thermal damage in the left rear section. The fuel flow divider on top of the engine was sooty, but undamaged. The fuel injection unit on the bottom of the engine was undamaged. Components in the front right quadrant were not discolored or damaged. Discoloration and damage became evident and increased in severity moving toward the components in the left rear quadrant. The engine controls appeared secure at their respective mountings.

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Narrative (Continued)

Components of the accessory section at the rear of the engine displayed damage. The engine driven fuel pump displayed more damage than the other accessories. The airframe in this area exhibited the most damage.

The aluminum housing of the engine driven fuel pump had melted and the center section of the pump was disintegrated. Fire consumed the pumping chamber, valves, and diaphragms. The top half of the pump remained securely attached to the engine. The bottom of the pump fell into the rubble. Molten metal remained on the lower portion of the pump piece that remained attached to the engine.

The attachment fittings for the inlet and output fuel lines for the fuel pump were detached and lying in the engine compartment. The inlet line had globules of molten metal on the threads and around the fitting. The output fitting did not have any residue on it; the threads and fitting were clean and undamaged. The fire sleeve surrounding the output line changed colors moving away from the fitting. Several inches of fire sleeve nearest the fitting were gray on the engine side and black on the part of the line that rested against the black engine mount. The fire sleeve then became orange, the same color as undamaged fire sleeve. The "B" nut on the output fitting was 1 1/4 turns loose. The remaining fuel line "B" nuts were secure. The Lycoming representative described the fitting as an industrial fitting rather than an aviation fitting, but he did not observe any evidence of mechanical failure.

Investigators removed the fire sleeve from the flexible fuel lines. They did not observe any damage or chaffing of the braided material. They did not find evidence of any ruptures or other hose failures.

A condition inspection (annual equivalent for amateur-built experimental aircraft) was completed on November 9, 1998, 10 hours prior to the accident.

The Safety Board investigator released the airframe wreckage to the owner's representative on January 13, 1999. Components retained for further study were returned to the owner's representative on March 23, 2001.

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Landing Facility/Approach Information

Airport Name	Airport ID:	Airport Elevation	Runway Used	Runway Length	Runway Width
ALA DOBLE	PVT	250 Ft. MSL	34	2500	50

Runway Surface Type: Asphalt

Runway Surface Condition: Dry

Approach/Arrival Flown: NONE

VFR Approach/Landing: Traffic Pattern

Aircraft Information

Aircraft Manufacturer	Model/Series	Serial Number
Richard Young	HARMON ROCKET II /HARMON ROC	3326-3

Airworthiness Certificate(s): Experimental (Special)

Landing Gear Type: Tailwheel

Amateur Built Acft?	Number of Seats:	Certified Max Gross Wt.	Number of Engines:
Yes	2	1950 LBS	1

Engine Type:	Engine Manufacturer:	Model/Series:	Rated Power:
Reciprocating	Lycoming	IO-540-C4B5	250 HP

- Aircraft Inspection Information

Type of Last Inspection	Date of Last Inspection	Time Since Last Inspection	Airframe Total Time
Annual	11/1998	11 Hours	209 Hours

- Emergency Locator Transmitter (ELT) Information

ELT Installed?/Type	ELT Operated?	ELT Aided in Locating Accident Site?
Yes /	No	

Owner/Operator Information

Registered Aircraft Owner	Street Address	City	State	Zip Code
VERNON S. DALLMAN JR.		ESPARTO	CA	95627

Operator of Aircraft	Street Address	City	State	Zip Code
VERNON S. DALLMAN JR.		ESPARTO	CA	95627

Operator Does Business As:

Operator Designator Code:

- Type of U.S. Certificate(s) Held: None

Air Carrier Operating Certificate(s):

Operating Certificate:

Operator Certificate:

Regulation Flight Conducted Under: Part 91: General Aviation

Type of Flight Operation Conducted: Personal

National Transportation Safety Board

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First Pilot Information

Name	City	State	Date of Birth	Age
On File	On File	On File		70

Sex: M | Seat Occupied: Front | Occupational Pilot? Business | Certificate Number: On File

Certificate(s): Private

Airplane Rating(s): Multi-engine Land; Single-engine Land; Single-engine Sea

Rotorcraft/Glider/LTA: None

Instrument Rating(s): Airplane

Instructor Rating(s): None

Current Biennial Flight Review?

Medical Cert.: Class 3 | Medical Cert. Status: Valid Medical--w/ waivers/lim. | Date of Last Medical Exam: 03/1997

- Flight Time Matrix	All A/C	This Make and Model	Airplane Single Engine	Airplane Mult-Engine	Night	Instrument Actual	Instrument Simulated	Rotorcraft	Glider	Lighter Than Air
Total Time	8923									
Pilot In Command(PIC)										
Instructor										
Instruction Received										
Last 90 Days										
Last 30 Days										
Last 24 Hours										

Seatbelt Used? Yes | Shoulder Harness Used? Yes | Toxicology Performed? No | Second Pilot? No

Flight Plan/Itinerary

Type of Flight Plan Filed: None

Departure Point	State	Airport Identifier	Departure Time	Time Zone
Same as Accident/Incident Location			1135	PST

Destination	State	Airport Identifier
Local Flight		

Type of Clearance: None

Type of Airspace: Class G

Weather Information

Source of Wx Information:

National Transportation Safety Board

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Weather Information

WOF ID	Observation Time	Time Zone	WOF Elevation	WOF Distance From Accident Site	Direction From Accident Site
SMF	1158	PDT	28 Ft. MSL	20 NM	70 Deg. Mag.

Sky/Lowest Cloud Condition: Thin Broken 0 Ft. AGL

Condition of Light: Day

Lowest Ceiling: None 0 Ft. AGL

Visibility: 1.25 SM

Altimeter: 30.00 "Hg

Temperature: 10 °C

Dew Point: 9 °C

Weather Conditions at Accident Site: Visual Conditions

Wind Direction: 320

Wind Speed: 9

Wind Gusts:

Visibility (RVR): 0 Ft.

Visibility (RVV) 0 SM

Precip and/or Obscuration:

Accident Information

Aircraft Damage: Destroyed

Aircraft Fire: In-flight

Aircraft Explosion None

- Injury Summary Matrix	Fatal	Serious	Minor	None	TOTAL
First Pilot		1			1
Second Pilot					
Student Pilot					
Flight Instructor					
Check Pilot					
Flight Engineer					
Cabin Attendants					
Other Crew					
Passengers			1		1
- TOTAL ABOARD -		1	1		2
Other Ground	0	0	0		0
- GRAND TOTAL -	0	1	1		2

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Administrative Information

Investigator-In-Charge (IIC)

HOWARD D. PLAGENS

Additional Persons Participating in This Accident/Incident Investigation:

EARL BENEDICT
SACRAMENTO, CA

MARK PLATT
VAN NUYS, CA